1: Metraux E-5 (1934-1935) 1940
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fibers served for tying purposes in the construction of houses. Today they are used in making baskets.

Gourds

White gourds, *hue* (*Lagenaria vulgaris*), were among the plants seen by the Spaniards in the fields of Easter Island (90, p. 123). They did not escape the attention of Cook (53, vol. 1, p. 288), though Forster failed to notice them.

The gourds, which fifty years ago grew wild over the island, were once abundant, but they seem to have disappeared entirely. Some of the graves we opened contained fragments of gourds in rather bad condition.

I assume that there was only one variety of gourd on Easter Island. The names that Knoche (123, p. 118) gives as varieties of calabashes are actually names of something quite different. The word *hipu* means container and applies of course to the gourds which were the only containers used by the natives. *Pakahara* means the shell of anything, but especially of a gourd. *Mautini* are pumpkins which have been introduced, probably from Tahiti where they have the same name.

Gourds were of two kinds. The round ones were used as containers for small things and the elongated ones were for water. Large calabashes in which the natives kept clothes, soaked mulberry bark, or boiled potatoes were called *kaha*.

Paper Mulberry

Paper mulberry trees, *mahute* (*Broussonetia papyrifera*), were raised in the enclosures found near the ancient villages, according to informants. These enclosures, some of which may also have been used for banana trees (fig. 2),

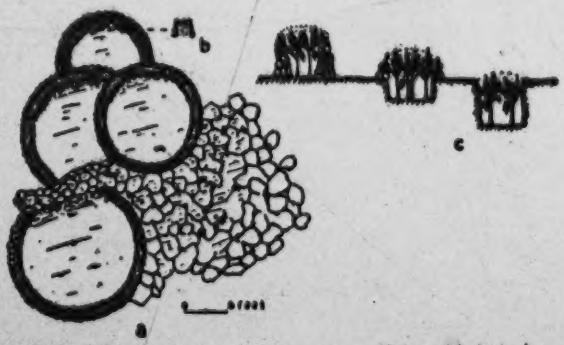

FIGURE 2.—Cultivation enclosures: *a*, enclosure near Vai-tarai-kai-ua; *b*, cross section of wall construction of enclosure shown in *a*; *c*, three types of enclosure in section, scale 1:200 (from Skottsberg, 208, vol. 1, fig. 2).

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white men. However, no early visitor mentions the arrowroot and it is not cultivated today. It may have been replaced by manioc. 244

Coconut

In the second part of the nineteenth century, some coconut trees or simply some coconuts (*niu, makoi*) were brought to the island either by Easter Islanders returning from Tahiti or by missionaries. This explains why Palmer (171, p. 170) saw large coconut bowls, although he was unable to find any coconut trees. It is probably to that attempt at coconut cultivation that Tepano alluded when he told me that in his mother's time there were some coconut trees at Poike, near Maunga Teatea. They are purported to have been destroycd during the war between the Miru and the Tupa-hotu. Tepano affirms having seen ancient boxes made from coconuts. The two trees now growing on the island were planted by Salmon. 245 177 [415]

Foreign Plants

Plants of European or American origin, now cultivated on Easter Island, are peas (*pipi*), beans (*ariko*), melons (*melone*), watermelons (*santia*), onions (*onioni*), manioc (*manioko*), maize (*tarake*), pepper (*oporo*), and pineapple (*anana*). Fig trees (*pika*) and mulberries (*monamona*) are abundant but the natives care little for their fruits. 241 177 262

The island soil is particularly favorable for beans and though the islanders complain that potatoes do not thrive, those of the English resident are the best I have tasted anywhere. The Williamson and Balfour Company is trying to develop the cultivation of maize by the natives, who have prospects of selling it at good prices, but few islanders have taken advantage of the opportunity.

Comparison with Cultivated Plants on other Polynesian Islands

The plants introduced and cultivated on Easter Island in early days are all Polynesian species. Due to the cold climate there are no breadfruit trees on the island and the two coconut trees do not bear fruit. In this respect Easter Island resembles Rapa where, because of the cold, there are no breadfruits, coconuts, and probably no pandanus. 241 171

Easter Island has no kava though kava was consumed on Mangareva and in the Marquesas whence the Easter Islanders probably came. Perhaps the Easter Island climate is unfavorable. The name kava is used on Easter Island in the composite form *kavakava atua*, designating a fern. Kava is also absent on Rapa though the climate there is suitable for its growth.

In the Marquesas as on Easter Island sugar cane and paper mulberry were cultivated in enclosures (104, p. 67).

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SERVING OF FOOD

264 415 The food was served on mats or in baskets. Roggeveen (186, p. 16) tells us that the natives brought him "a boiled fowl to eat very neatly wrapped round in a kind of rush, clean and hot." G. Forster (83, vol. 1, p. 571) also speaks of matted baskets "full of sweet potatoes."

482 492 493 To carry food, and, in general any burden, the Easter Islanders had carrying poles (*amo*) which they balanced on one shoulder. This means of transportation has entirely disappeared and is remembered only by the old people. Today carts or packhorses are used.

FOOD ETIQUETTE

264 Nowadays no particular custom or rite is observed at meals. The women do the cooking assisted occasionally by the men when they have time or feel like helping. No native begins to eat before he has muttered a prayer or [782] crossed himself. Formerly a food offering was made to Haua and Makemake before meals, pronouncing the formula "Ma Haua, ma Makemake."

574 Father Zumbohm (230, vol. 6, pp. 233-236) describes a banquet given for him by a powerful chief of Hotu-iti. The feast was the first sign of friendship shown toward the missionaries by the natives of that part of the island. Since other chiefs on the island had already honored the missionaries with feasts, this chief felt that to maintain his dignity he must give an especially fine one. Therefore he ordered his people to fish and to gather sweet potatoes, bananas, sugar cane, and fowls in abundance.

574 264 A big oven was dug out and kindled in the morning. When the missionaries arrived they were invited to sit on four stones around the oven and mats were stretched in front of them. The chief asked the missionaries if they were ready to eat, they said that they were, and at a given signal ten men rushed toward the oven and opened it. The best pieces of food were laid on small mats and deposited at the feet of the missionaries. After this, the chief and his friends were served.

"You should have seen," writes Zumbohm (230, vol. 6, p. 237), "the dexterity with which they cleaned the carcass of the chicken from its meat and the avidity with which they devoured the meat with the small bones . . . " To quench their thirst they chewed sugar cane.

The common people stood waiting while the honored guests ate their meal. At a signal from one of the missionaries, they came forward and helped themselves to any food left in front of the guests and in the oven. The women and children were served last. From a delicacy like chicken or fish all they got was the bones to chew and "these bones were already chewed once or twice" (81, vol. 38, pp. 126-127).

The general gaiety of the meal was spoiled by the complaint of a visiting chief that he had not been served according to the rule of etiquette. He was supported by his retainers and the quarrel almost developed into a battle.

After the meal the guests rested in the shade and the day ended with "games and diversions."

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curbs are firmly embedded in the ground, it is difficult to estimate their total height; generally they rise 1 foot above the ground. Their depth underground must be between 30 cm. and 1 meter. The unseen part is generally roughly carved and thicker than the upper part, which has sharp angles and smooth surfaces. The upper face of each slab has 2 or 3 (rarely 4 or 5) cup-shaped depressions. These cavities, in which rafters were inserted, are 5 to 8 cm. deep with a diameter of 2.5 to 5 cm. The distance between them is variable.

The curbstones are embedded to form a complete oval (pl. 3, *A*). In a few houses the end curbs (*pini hare paenga*) are curved (fig. 15, *b*), so that the foundation may be continuous. However, most houses are sharply pointed at the ends with a small space left between the two end curbs.

The number of curbstones composing the foundation depends on the size of the house and the length of the curbs. The large hut seen by La Pérouse had, according to his plan, 70 curbs. Other houses of more modest size had from 15 to 18 curbs.

In the middle of the seaward side is an opening corresponding to a door.

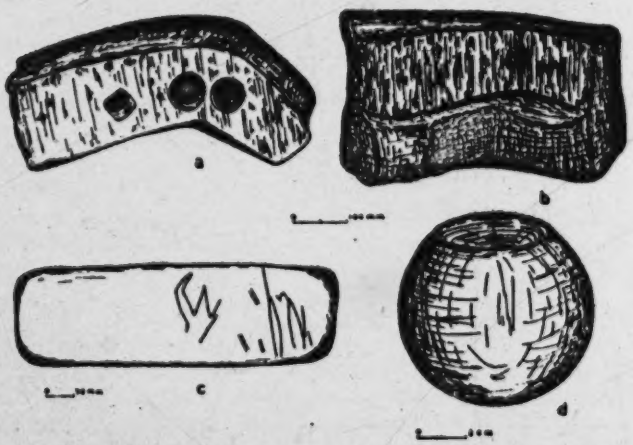

FIGURE 15.—Curbstones and household furniture. *a-b*, corner curbstone of the birdman's house at Rano-raraku: *a*, top view showing holes for ends of rafters; *b*, side view; 580 mm. long, 290 mm. high, 190 mm. wide; *c*, ground rectangular stone pillow (*ngaru'a*), with incised figures representing a vulva and a bird without head (a line terminating in a fork incised on the other side), 250 mm. long, 860 mm. wide, 52 mm. thick (B3398); *d*, calabash (*ipu*) for drinking water, 72 mm. high, 85 mm. wide (B3567).

Few stone foundations are seen today because houses with stone foundations were not the most common type. They were the expression of wealth. It was easier and cheaper to stick rafters into the ground, though there was always the danger that rain, running down the slopes of the volcanoes, might penetrate into the house. Also, many foundations have been destroyed both before and after the occupation of the island by Europeans. In time of war a triumphant party would take as booty the curbs of the houses of the de-

l: Metraux E-5 (1934-1935) 1940
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285 basket, and the wefts that were turned away from her in the first course are now inclined toward her. Commencing again at the far end, she braids the second course above the first and finishes off as before with a free tail fixed by a half hitch. The basket thus has a short free braid at each end of the bottom braid and the technique is identical with the 2-tail finish of Tongareva (30, p. 135, fig. 18, *f*).

The other edge formed by the unsplit ends of the wider strip is converted into a rim by running out the weft splits to form individual free weft ends. The Easter Island basket rim, according to Buck (personal communication), is peculiar in that it is made by two processes. The first is the forming of an edge by doubling over both sinistral and dextral wefts so that their free ends project on the outer side of the work and the second is the plaiting of the free ends into a 3-ply braid which is slightly below the rim edge. (See figure 21.)

The basket is plaited with its inner side out. On completion, the basket is turned inside out and the two tails at the bottom and the rim braid are inside the basket in their proper place.

[531] Simple color patterns in crossed diagonal lines are introduced by using black wefts from the natural dark-colored parts of the banana material.

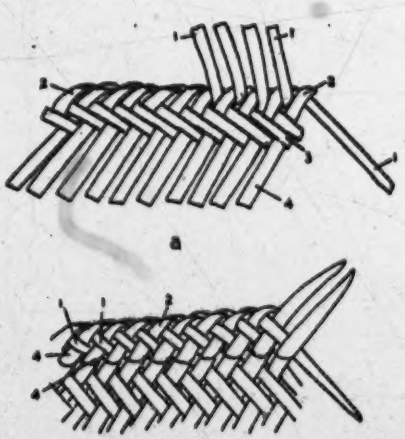

FIGURE 21.—Basket rim. *a*, first course: dextrals (1, 1) bent over rim at right angles to previous direction and caught under sinistrals (2), turned upward out of way of plaiting; the sinistrals (2) have also been turned at right angles over the rim and caught under two sinistrals (3) of the twill technique and the ends (4) left free; on the left, the dextral free ends are not shown and on the right, one (1) is shown in position before being turned upward: *b*, second course; the upper row of dextral free ends (1) engage the lower sinistral free ends (4) which are turned upward, to form a braid.

285 415 Baskets were named according to size, the smallest were called *kete-rau-hiri*; the carrying baskets were the *kete-turua* and were about 1 meter long and of the same width. The food taken from the earth oven was put into *taropa*. A basket was a *tukunga* when used as a tray for food.

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Conical Caps

The modern conical caps (*hau moroke*) are modeled after a very old type, though the ancient technique has been forgotten. The modern headdresses are curios without practical use and are made in the same way as the modern hats adopted from Tahiti. Of the early visitors to Easter Island, Forster (83, vol. 1, p. 565) is the only one who mentions the caps: "Others had huge bushy caps of brown gulls feathers, which were almost as large as the full bottomed wigs of European lawyers." One such cap, made according to ancient pattern, has been preserved in the Museum für Völkerkunde, Vienna, in the Westenholz collection (fig. 25, *b, d*).

This type of headdress is derived directly from the ordinary circlet. Like the circlet it has a cord to which feathers are attached on one side, but this foundation, instead of forming a cylindrical ring, is wound spirally beginning at the top, each coil being a little larger than the preceding one, thus giving the headdress a conical shape. The coils are tied together with a string as are the coils in ordinary circlets.

Modern feather caps have a frame of plaited rush wound spirally from the top down, upon which bunches of feathers are sewn for decoration (fig. 25, *c*).

The plaited band is made of rush strips 6 to 10 mm. wide and plaited in twilled twos. At the edges of the band the strips are turned back to present in alternation their smooth outer and rough inner surfaces. At the top the plaited band is twisted and folded back to cover the opening. The lower edge of the conical cap is inserted in a separate plaited band folded lengthwise and sewn along the rim. In one specimen (B. Mus. 5970) the lower rim is reinforced by a wide piece of tapa sewn along the border and extended to line the interior.

The ends of the feather clusters are wrapped with strips of paper mulberry bark. The bunches are tied perpendicularly, forming parallel rows, with the tops of the feathers extending downward. In the best specimens each row overlaps the next one, and the entire cap is covered on the outer surface by feathers. On the top the feathers are sewn tightly and conceal entirely the beginning of the work. The top of one cap (B. Mus. 5972) is covered by a little net work made with the same kind of *hau* string as that used in fastening the feathers.

Another cap (B. Mus. 5990) is particularly interesting as a link between the ancient and modern types. It consists of a plaited band 22 mm. wide wound spirally. The feather bundles, instead of being sewn perpendicularly to the band, are fixed lengthwise to strips of rush forming a long cord coiled round the cap and loosely tied to it. The principle of the technique is the same as that of the old caps, but the coil foundation is supported by the plaited frame. This cap is 192 mm. high, with a rim 165 mm. wide, and the plaited band is 25 mm. wide.

Feather Containers

Cherished feathers, particularly those of white cocks, were kept in gourds or banana-leaf containers and taken out when a headdress was to be made (194, p. 218). The feathers were hackle cock feathers, many of them tied in pairs with fiber. The tufts were frequently wrapped with tapa.

One container in the Museum für Völkerkunde, Vienna (22881), is made of four pieces of sheaths stripped from the banana trunk and cut in broad bands 655 mm. long and 100 mm. wide. These are placed side by side to form three compartments. At the bottom they are doubled up and sewn together with a continuous thread of paper mul-

1: Metraux E-5 (1934-1935) 1940
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●415 berry fiber running over the edge and through the doubled up border. The short ends are sewn together with continuous horizontal stitches across a band of paper mulberry bast 8 mm. wide which completely encircles the container. Some containers have two compartments and a small container has only one.

Other Headdresses

291 I was told that formerly the women occasionally wore on their heads pieces of tapa cloth, stained with turmeric; these were called *pouo roiroi*.

[578 765] A special circlet (*vanavana*) was worn by men "in delivering a challenge to combat for revenge" (215, p. 535). Geiseler (87, p. 28) mentions that the revengeful mourner (*timo-ika*) covered his head with "a rough crown made of horsehair" (Mus. für Völkerkunde, Berlin, VI.4977) about which his catalog gives the following information: "Headdress of horsehair to look like a woman. Name: *ivive*. This wig is used when a man calls secretly on a woman in order not to be noticed. These objects are rare and these were the only specimens."

301 114 According to Tepano, men and women of the past often wore a sort of "comb" (*harihari*) in their hair. In this ornament, feathers were tied to small sticks with strips of paper mulberry, banana, or *hau* bark. Since no specimen of this kind of comb has been preserved and since none of the early or recent voyagers to Easter Island mention it, the truth of Tepano's statement may be doubted.

Women's Hats

291 Until the middle of the nineteenth century the women wore a special kind of hat (*hau pouo*), which is described by G. Forster (83, vol. 1, p. 566): [285] "The women wore a great wide cap, made of very neat mat-work; it was pointed forwards, formed a ridge along the top, and two large lobes behind on each side, which we found extremely cooling for the head." No specimen of these hats for women has been preserved. However, they have been figured by Cook (53, vol. 1, p. 290) and La Pérouse (130, pl. 11). Such hats are [532] carved on the heads of two images of women in Bishop Museum. These images are not very ancient, but were certainly made when these headdresses were still in use. The two lobes are larger on the back than on the front and are raised on both ends. The general form of the hat is elliptical and was worn lengthwise. From Cook's plate we may infer that these hats were made of small plaited strips sewn together like modern straw hats of European type.

Headdresses of Unusual Type

The Peabody Museum at Cambridge has two Easter Island headdresses which represent types that are neither mentioned in the literature nor remem-

5: Roggeveen T-5 (1721-1722)1908
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a good 30 feet in height and broad in proportion. This perplexity ceased, however, with the discovery, on removing a piece of the stone, that they were formed out of clay or some kind of rich earth, and that small smooth flints had been stuck over afterwards, which are fitted very closely and neatly to each other, so as to make up the semblance of a human figure[1]. Moreover, one saw reaching downwards from the shoulders a slight elevation or prominence which represented the arms, for all the statues seem to convey the idea that they were hung about with a long robe from the neck right down to the soles of the feet. They have on the head a basket heaped up with flints painted white deposited in it[2]. It was incomprehensible to us how these people cook their food, for no one was able to perceive or find that they had any earthen pots, pans, or vessels. The only thing which appeared to us was that they scrape holes in the ground with their hands, and lay large and small flint pebbles in them (for we saw no other kinds of stone): then, having got dried litter from the fields and laid over the pebbles, they set fire to it and in a little time brought us a boiled fowl to eat very neatly wrapped round in a kind of rush, clean and hot. Though they were thanked by means of signs, we had quite enough business in hand to look after our people so as to keep order among them, and prevent any affront being offered; and also that in the event of any struggle occurring they should not allow themselves to be taken by surprise, for although these people showed us every sign of friendship,

[1] "Some of the gentlemen who travelled over the island, and examined many of them, were of opinion, that the stone of which they were made was different to any other they saw on the island, and had much the appearance of being factitious." Cook, Bibl. no. 16.

[2] Roggeveen's description of the statues seems to show that he never got close to one of them, but saw them only from a distance of some hundreds of yards. His 'basket' was doubtless one of the coronoid cylinders of tufaceous rock by which most of the figures were surmounted.

8: Behrens T-5 (1721-1722) 1908
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500 live fowls, which were like those of the Vierländen, this time without any boiled or roast ones, together with many roots, some red, some white, a good lot of potatoes which tasted almost like bread, and which are used by these people in the same way; and some hundreds of sugar-canes, great quantities of *pisang*[1], being Indian figs as large as a cucumber a span in length and of proportionate thickness, with a green rind. When one peels this off [the pulp] tastes like figs, or as sweet as honey: there are sometimes as many as a hundred on a single bunch. The leaf is from two to three feet broad and from six to eight feet in length. It is with these that our first parents should have covered themselves in Paradise after their unfortunate Fall, because it is almost the largest and strongest leaf which one meets with in Morning and Evening lands.

No animals were met with, as far as we penetrated on this occasion, except sundry species of birds; but there may be many other animals farther in the interior of the country, as the natives seemed acquainted with pigs when they saw some on board our ships.

The natives prepare their meals in pots made of clay or earth. Each household appeared to us to have its own.

The houses were from forty to sixty feet [*schuh*] long, six to eight feet [*schuh*] in width, and of similar height, set up on wooden stakes, daubed over with luting and covered in with palm leaves. As regards their subsistence it appears that it must be procured by tillage of the soil, as we saw it everywhere planted and bearing crops. Moreover the fields or lands were all measured off with a cord, and very neatly cultivated. At the time of our visit all their crops were maturing: the fields and trees were in full bearing, and I feel sure that if we had explored this country right through many good things would have been met with, since we were there in just the best season of the year.

No remarkable furniture was found inside their houses, except some red and white coverlets [*decken*] which they often use as apparel, and also for sleeping under. These coverlets felt like silk, to the touch, so that one could almost conclude they had looms by means of which they made them themselves.

These natives were universally blithe and merry, well-built, strong in limb, not exactly slender, yet nimble on their feet; friendly and pleasant in manner, but submissive withal, and also very timid. Most of them, when bringing any object such as

[1] *Pisang* is the Malayan generic term for the banana.

10: Cooke D-5 (1886) 1899
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not great, no doubt the night dews, which are quite heavy on Rapa Nui, and with which the grass is loaded in the mornings, amply supply all their requirements in this respect. 312

At the habitations, the rain falling on the roofs of the houses was collected in iron tanks, and the water thus obtained was unexceptionable. During the winter season, April to October, when the winds are variable, there is ample rainfall, and fresh water is abundant.

Having no knowledge of the potter's art, earthen vessels are unknown, [323] although red clay of fine quality is plentiful on the island. Neither does the cocoanut palm, so indispensable to the natives throughout Polynesia, grow upon the island, at the present day at least. A variety of gourd flourishes luxuriantly, however, and the fruit of this, properly seasoned, furnishes them with vessels for holding their water. 415 137

The flora of the island is a very meager one. Tradition has it that it was barren until King Hoto Metua, the "Prolific Father," with his Queen and followers, landed and took possession, bringing with them seeds and fruits. 137

Except in the immediate vicinity of the houses occupied by Messrs. Salmon and Brander, the island may be said to be treeless. In the places mentioned a few fig, acacia, paper mulberry, and other trees grew to a fairly good height. In other parts of the island may be seen, in places in considerable numbers, a hard-wood tree, more properly bush or brush, called by the natives *toromiro*. These must have flourished fairly well at one time, but are now all, or nearly all, dead and decaying by reason of being stripped of their bark by the flocks of sheep which roam at will all over the island. None of the trees are, perhaps, over 10 feet in height, nor their trunks more than 2 or 3 inches in diameter. The wood is exceedingly hard and heavy, somewhat resembling our apple, and the natives used, and still use it, to this day in making their house Gods, their Penates. These are rudely carved out of the solid wood, hideous imitations of the nude human form, male or female; 2 to 3 feet in length, with preposterous development of chest and preternatural collapse of abdomen, as though famine had brooded over the land and the patient had perished of inanition; with attenuated forms, long, slender arms and legs, narrow faces, a goatee, long, prominent ears, etc. In the eyes of these idols the iris is usually represented by a circular button of bone, generally cut from a human skull, while a fragment of obsidian, fixed in a round hole in the center of this, and which glistens in the light, makes a fair imitation of the pupil, both being deftly fitted in the wood of the ball. On the first occasion when the writer saw a skull from which several such buttons of bone had been removed for the purpose mentioned, he was impressed with the idea that the ancient Rapa Nuis, like the ancient Peruvians in the time of the Incas, were acquainted with the operation of trephining and performed it in a much neater manner. Subsequent investigation speedily undeceived him on that point. 532